

## ABSTRACT

At a stage of compiling of a source code, range information of a variable that a pointer points and information for a failure recovering are installed into the pointer variable. Since failure recovering information can also be acquired when an illegal  
5 pointer access is detected based on range information, a recovering processing suitable for data that has caused the failure is performed according to the failure recovering information. By relating the range information and the failure recovering information with the data address, a data type of a memory area at the failure location can be specified using the failure recovering information (UPPER, LOWER, and FIXED).

10